

WHAT IS CLAIMED IS:

1. A control apparatus for an automotive vehicle, comprising:
 - 5 a continuously variable transmission associated with a vehicular engine, including a belt that transmits a revolution of a primary pulley to a secondary pulley, and that is enabled to make a gear shift by modifying a pulley ratio between the primary and secondary pulleys with a hydraulic;
 - a belt slip determining section that determines if a slip of the belt between at least one of the primary and the secondary pulleys occurs; and
 - an output section that outputs a signal to
15 command an engine control unit to increase an engine speed by a predetermined engine speed when the belt slip determining section determines that the slip therebetween occurs.
- 20 2. A control apparatus for an automotive vehicle as claimed in claim 1, wherein the belt slip determining section determines if the belt slip therebetween occurs when the vehicle is started and the output section outputs the signal to command the
25 engine control unit to increase an engine idling speed by the predetermined engine speed when the belt slip determining section determines that the slip therebetween occurs and when the vehicle is started.
- 30 3. A control apparatus for an automotive vehicle as claimed in claim 2, wherein the vehicle further comprises an oil pump to be driven by means of the engine; an original hydraulic supplying section that

supplies an original hydraulic for a control hydraulic that controls the pulley ratio with the oil pump as a hydraulic source; a gear shift actuator that supplies the control hydraulic to each pulley;
5 and a gear shift controlling section that outputs a control command to the gear shift actuator; and an original hydraulic determining section that determines whether the original hydraulic of the original pressure supplying section is equal to or
10 below a predetermined hydraulic value; and the shift controlling section that outputs the signal to command the engine control unit to increase the engine idling speed by the predetermined engine speed when the original pressure during the vehicle stop is
15 determined to be equal to or below the predetermined hydraulic value by the original hydraulic determining section.

4. A control apparatus for an automotive vehicle
20 as claimed in claim 3, wherein the gear shift controlling section outputs a signal indicating a demand on an output torque upper limit value to the engine control unit when outputting the signal to command the engine control unit to increase the
25 engine idling speed by the predetermined engine speed.

5. A control apparatus for an automotive vehicle
as claimed in claim 1, wherein the belt slip
determining section comprises: engine speed
30 determining section that determines whether the engine speed N_e is larger than a first predetermined engine speed N_{e1} ; a secondary pulley cylinder hydraulic determining section that determines if a

difference ($P_{\text{sec}} - P_1$) between a target secondary pulley hydraulic P_{sec} and a first set hydraulic P_1 is larger than a second set hydraulic P_0 when the engine speed N_e is higher than the first predetermined engine speed N_{e1} , a setting value setting section that sets a setting value P_{min} to determine if a deviation between the target cylinder secondary hydraulic P_{sec} and actual secondary pulley hydraulic P_{sec} is too large; a first secondary pulley hydraulic determining section that determines whether a difference ($P_{\text{sec}} - P_{\text{sec}}$) between the target secondary pulley hydraulic P_{sec} and actual secondary pulley hydraulic P_{sec} is larger than the setting value P_{min} ; a second secondary pulley hydraulic determining section that determines whether the second secondary pulley hydraulic is smaller than a first set hydraulic (P_1) when the difference between the target secondary pulley hydraulic $P_{\text{sec}} - P_{\text{sec}}$ is larger than the setting value P_{min} ; and a pulley ratio determining section that determines whether a ratio of revolution speeds between the primary pulley and secondary pulley is larger than a predetermined gear ratio G_0 when P_{sec} is smaller than first set hydraulic P_1 and wherein the belt slip determination section determines that the belt slip occurs when the ratio of the revolution speed is larger than the predetermined gear ratio.

6. A control apparatus for an automotive vehicle as claimed in claim 5, wherein the output section comprises an overdrive determining section that determines whether an overdrive ratio occurs and the output section outputs different values of the torque

limitation demand values depending on whether the overdrive ratio occurs.

7. A control apparatus for an automotive vehicle
5 as claimed in claim 6, wherein the output section outputs one of the torque limitation demand values T_1 and T_2 in which $T_1 > T_2$ depending on whether the overdrive occurs.

10 8. A control apparatus for an automotive vehicle as claimed in claim 7, wherein after the output section outputs the engine speed increase demand signal to the engine control unit and, then, outputs a fuel cut-off recovery engine speed increase signal to the
15 engine control unit and, when, during the deceleration, the engine speed is increased.

9. A control apparatus for an automotive vehicle as claimed in claim 8, wherein the belt slip determining
20 section determines whether a vehicle is stopped and determines whether a line pressure is larger than a predetermined line pressure when the vehicle is determined to be stopped to determine whether the belt slip occurs.

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10. A control apparatus for an automotive vehicle, comprising:

an engine control unit;

an oil pump driven by an engine;

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a continuously variable transmission associated with a vehicular engine and including a belt that transmits a revolution of a primary pulley to a secondary pulley that is enabled to make a gear shift

by modifying a pulley ratio between the primary and secondary pulleys with a hydraulic, continuously variable transmission including a belt to transmit a revolution of a primary pulley to a secondary pulley
5 driven by a revolution of the engine; an original hydraulic supplying section that supplies an original hydraulic of a control hydraulic to control the pulley ratio with the oil pump as a hydraulic source; a gear shift actuator that supplies an original
10 hydraulic for the control hydraulic that controls a pulley ratio with the oil pump as a hydraulic source; a gear shift actuator that supplies the control hydraulic to each pulley; and a gear shift controlling section that outputs a control command to
15 the gear shift actuator; and an original hydraulic determining section that determines whether the original hydraulic of the original hydraulic supplying section is equal to or below a predetermined hydraulic when an engine idling is
20 carried out during a vehicular stop; and an output section that outputs a signal to command the engine control unit to increase the engine idling speed by a predetermined engine speed.

25 11. A control method for an automotive vehicle, the vehicle comprising: a continuously variable transmission associated with the engine and including a belt that transmits a revolution of a primary pulley to a secondary pulley that is enabled to make
30 a gear shift by modifying a pulley ratio between the primary and secondary pulleys with a hydraulic, and the method comprising:

determining if a belt slip between at least one
of the primary and the secondary pulleys occurs; and
outputting a signal to command an engine
control unit to increase an engine speed by a
5 predetermined engine speed at a time of determining
that the slip therebetween occurs.

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